

Serial No. 09/935,352

PATENT
Docket No. 58027-011900
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On the basis of newly presented claims 1-100, reconsideration of this application is requested. Claims 1-100 as submitted are fully supported by the specification as filed, and as established by the following remarks.

The Examiner contends that independent claims 1, 4, 10, 22, 35, 51, 54, 55, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Jewell *et al.* (US. 5,245,622).

Clearly, the Jewell patent teaches a method of aperturing, by etching an active region, on a **GaAs substrate** (col. 6, lines 19). This is very unlike the present invention, in which the aperturing of the active InAlGaAs layer (as in claim 51) is done on a monolithic VCSEL based on an **InP substrate**.

Furthermore, the Jewell patent does not disclose the proper choice of etching mixtures for performing a highly selective etch of the active region. In contrast, by using an **InP substrate** according to the present invention, instead of a GaAs substrate, allows for a design of a **highly selective etching process** for selectively etching the InAlGaAs active region in relation to the AlAsSb/AlGaAsSb DBRs. Specifically, this highly selective etch is a mixture comprising of a predetermined ratio of citric acid to hydrogen peroxide (as in claim 3). Although similar citric acid-based etches have been used in the past, it was unknown as to whether they would work with the combination of materials used in the present structure. As a result, by using an InP substrate in conjunction with a particular set of etching mixtures (viz., the citric acid-hydrogen peroxide combination at high selectivities), as described by the present invention, allows for the manufacture of high-power and high efficiency monolithic VCSELs as clearly evidenced through FIGs. 4-6. Thus, it is non-obvious that the choice of materials considered by the present invention provide a selective etch (~100:1) as compared to the prior art.

Accordingly, independent claims 1, 4, 10, 22, 35, 51, 54, 55, and 61 have been amended to overcome this rejection.

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In view of the above, it is submitted that this application is now in good order for allowance, and such early action is respectfully solicited. Should matters remain which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone the Applicants' undersigned attorney.

Any additional fees required in connection with this communication which are not specifically provided for herewith are authorized to be charged to the Deposit Account No. 50-2638 in the name of Greenberg Traurig, LLP. Any overpayments are also authorized to be credited to this account. Any extensions of time that are necessary for this paper, or any extensions of time that will be required for papers to be submitted in this case in the future, are hereby generally requested.

Respectfully submitted,

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